

Amendment
Serial No. 09/450,054
Page 2

Rejections

A. 35 U.S.C. § 102

The Examiner rejected claims 1-2, 4-5, and 10-11 under 35 U.S.C. 102(b) as being anticipated by the Koh et al. patent (United States patent 5,416,861 issued May 16, 1995, hereinafter "Koh"). The rejection is respectfully traversed.

The Examiner alleges that, "Koh et al. disclose a network Fig. 1 for distributing a power signal in an optoelectronic circuit 20 comprising a plurality of electrically conductive pathways forming at least one level, wherein the portions of the conductive pathways are interconnected." The Applicants strongly disagree with this characterization of the Koh reference.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983)) (emphasis added).

Koh discloses an optical waveguide H-tree design for global clock distribution on multichip modules (MCM). (See Koh, ABSTRACT). Koh fails, though, to disclose at least the invention of claim 1 as follows:

"A network for distributing a power signal in an optoelectronic circuit, said network comprising:
a plurality of electrically conductive pathways forming at least one level, wherein portions of said conductive pathways are interconnected;
a plurality of segments forming each level, wherein each segment of a level is equal in length;
means for coupling said power signal from a primary input to a point at the center of a first level;
terminal nodes coupled at the extremities of a last level for supplying said power signal to devices that form at least a portion of said optoelectronic circuit; and
wherein the number of segments connecting said primary input to each of said terminal nodes is equal." (emphasis added).

In contrast to the above quoted claim language, Koh discloses an H-tree configuration for equidistant clock distribution (i.e., not power distribution) on

Amendment
Serial No. 09/450,054
Page 3

MCM substrates using optical rather than electrical interconnection. (See Koh, column 10, lines 57-61.) (emphasis added). There is absolutely no disclosure in Koh of a "network for distributing a power signal in an optoelectronic circuit, said network comprising a plurality of electrically conductive pathways." The "segments 24" cited by the Examiner are not "electrically conductive" as claimed. The Koh reference is simply directed to a different problem than the claimed invention, and the problem is solved in a different manner than claimed here.

Therefore, the Applicants submit that claim 1 is not anticipated by the teachings of Koh and, as such, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

Likewise, independent claims 7 and 10 recite similar relevant features as those recited in claim 1. As such, the Applicants respectfully submit that claims 7 and 10 are also not anticipated by the teachings of Koh and also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

Furthermore, dependent claims 2-6, 8-9 and 11 depend, either directly or indirectly, from claims 1, 7 or 10 and recite additional features therefor. As such and for the exact same reasons set forth above, the Applicants submit that none of these claims is anticipated by the teachings of Koh. Therefore, the Applicants submit that all these dependent claims also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

B. 35 U.S.C. § 103(a)

The Examiner has rejected claims 3 and 6-9 under 35 U.S.C. § 103(a) as being unpatentable over the Koh et al. patent (United States Patent 5,416,861 issued May 16, 1995). The rejection is respectfully traversed.

The Examiner alleges that "Koh et al., as applied to claims 1 and 2 above, teach all of the stated limitations except for that the pattern of the level is X-shaped."

Claims 3 and 6-9 are patentable for at least the reasons discussed above with respect to claim 1, from which they depend. For example as stated above,

Amendment
Serial No. 09/450,054
Page 4

Koh discloses an optical waveguide H-tree design for global clock distribution on multichip modules (MCM). (See Koh, ABSTRACT).

With respect to claim 3, and in contrast to the claimed invention, Koh discloses an H-tree configuration for equidistant clock distribution on MCM substrates using optical rather than electrical interconnection. (See Koh, column 10, lines 57-61.) (emphasis added). Furthermore, it is the design goal of the clocking distribution network to integrate optical interconnection on an MCM which involves, electrical-to-optical signal conversion, optical signal propagation/distribution and optical-to-electrical signal conversion, minimizing noise, power consumption, signal distribution loss, device size, system rise time, and global clock skew, while maximizing speed, system bandwidth and coupling efficiency of signals. (See Koh, column 9, lines 51-54).

There is no teaching or suggestion in Koh that renders the problem solved by the Applicants' invention for power distribution obvious. There is absolutely no teaching or suggestion in Koh of a "network for distributing a power signal in an optoelectronic circuit, said network comprising a plurality of electrically conductive pathways" and certainly no such structure arranged in the manner of claim 3. The Koh reference is simply directed to a different problem than the claimed invention, and the problem is solved in a different manner than claimed here.

As such, the Applicants respectfully submit that Koh does not teach or suggest Applicants' independent claim 1. Therefore the Applicants submit that claim 1 as it now stands is not obvious and fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

Likewise, independent claim 7 recites similar relevant features as those recited in claim 1. As such, the Applicants respectfully submit that Koh does not teach or suggest independent claim 7. Therefore the Applicants submit that claim 7 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

Amendment
Serial No. 09/450,054
Page 5

Furthermore, dependent claims 2-3, 6, and 8-9 depend, either directly or indirectly, from claims 1 or 7 and recite additional features therefor. As such, and for the exact same reasons set forth above, the Applicants submit that none of these claims are obvious with respect to the teachings of Koh. Therefore the Applicants submit that all these dependent claims fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder

Conclusion

Thus the Applicants' submit that none of the claims, presently in the application, is anticipated under the provisions of 35 U.S.C. § 102 or obvious under the provisions of 35 U.S.C. § 103. Consequently, the applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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